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ABSTRACT

This guide was designed to assist parents, teachers, youth leaders, and park and recreation directors in the safe selection, use, installation, maintenance and repair of playground equipment. The nature and necessity of children's play are discussed briefly and information is presented on four main types of playground equipment: (1) swings, (2) slides, (3) climbing apparatus and (4) seesaws. Nine especially dangerous features of playground equipment are identified and pictured. (JMB)

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"Play Happy, Play Safely"

PLAYGROUND EQUIPMENT GUIDE

For teachers, park and recreation directors, parents, youth leaders, and other concerned adults.

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PREFACE

The Consumer Product Safety Act was signed into law on October 27, 1972. The Act established a new independent Federal regulatory agency, the Consumer Product Safety Commission. The Commission's primary goal is to substantially reduce injuries associated with consumer products. Congress directed the Commission to:

—protect the public against unreasonable risks of injury associated with consumer products;
—assist consumers to evaluate the comparative safety of consumer products;
—develop uniform safety standards for consumer products and to minimize conflicting State and local regulations; and
—promote research and investigation in causes and prevention of product-related deaths, illnesses and injuries.

POWERS

The Commission establishes mandatory safety standards for consumer products sold in the United States. The Commission has legislative authority to enforce mandatory standards in the courts with civil penalties of up to $500,000 and criminal penalties of up to $50,000 in fines and up to one year in jail. The Commission also may require the recall, repair, replacement or refund of products that are found to present substantial product hazards. The Commission also has the power to ban hazardous products.

EDUCATION

The Commission holds a strong Congressional mandate to educate and inform the general public about product safety. The Commission provides information to consumers and manufacturers, conducts educational and training programs and publishes studies and reports to attempt to reduce injuries and eliminate consumer product hazards.

INJURY INFORMATION

The Commission is required to maintain an injury information clearinghouse and operates the National Electronic Injury Surveillance System which monitors 119 hospital emergency rooms nationwide for injuries associated with consumer products. The Commission also conducts studies, tests products and contracts for outside research to improve product safety.

PETITIONS

Any interested consumer or consumer organization may petition the Commission to begin proceedings to issue, amend or revoke a consumer product safety rule. The Consumer Product Safety Act requires that the Commission grant or deny the written request within 120 days. If the petition is denied, the Commission must publish its reasons in the Federal Register, the Government's daily digest. Petitioners may appeal the decision in the courts and may also sue if the Commission does not act on petitions within 120 days.

COMMISSIONERS

The Commission was activated on May 14, 1973. Commissioners are nominated by the President and confirmed by the Senate. The Commission was created as a bipartisan agency to be independent of political pressures. Commissioners serve seven-year terms (after initial shorter appointments) and can be removed from office only for neglect of duty or malfeasance. No more than three Commissioners may belong to the same political party.

STANDARDS FOR PUBLIC PLAYGROUND EQUIPMENT

The National Recreation and Park Association submitted its *recommended* safety standards for public playground equipment to the CPSC on May 1, 1976. The standards resulted from discussions with consumers, industry, buyer/installer representatives, and other interested people and organizations.

The recommended standards are aimed at reducing unreasonable risk of injury and the severity and frequency of injuries associated with public playground equipment under conditions of normal use and reasonably foreseeable misuse.

The CPSC is currently in the process of evaluating these public playground equipment safety standards for publication as proposed regulations.

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SAY-HEY

INTRODUCTION

DiD YOU KNOW THAT:

—The U.S. Consumer Product Safety Commission (CPSC) estimated that in one year, 118,000 playground equipment related injuries required hospital emergency room treatment.*

—That most injuries occurred to children under 10 years of age.

—That three-fourths of all reported injuries were falls to the ground or falls onto other equipment.

—That other playground equipment hazards include: being struck by a moving piece of equipment, rough edges on apparatus, protruding bolts on apparatus, and entrapment of fingers and toes in playground equipment.

—That two children died when their ponchos caught on the upright portion of a slide rail; another child pushed off a slide platform fell six feet and fractured his leg; and a 4-year-old child suffered a strain/sprain to her back when she put her head between the two support bars of a glider swing.

How can these accidents be prevented? How can injuries to children on the playground be reduced?

The purpose of this guide is to assist you — teachers, youth leaders, park and recreation directors, parents, and other concerned adults — in safer selection; use; installation, maintenance, and repair of playground equipment.

WHAT YOU CAN DO

First, you must become informed. Parents and others who are responsible for children of playground age need to become aware of the dangers of playground equipment.

Next, you must take action toward preventing playground accidents. You must teach children how they can avoid accidents while having fun and playing safely on all playground equipment.

It is just as important to adults, because it is through play that children first encounter the real world. You must be sure that children encounter a safe world—where their toys and their playgrounds in the backyard, the neighborhood and in school areas are as safe as possible.

Technical knowledge, advanced education or professional experience is not needed to prevent children from being hurt on the playground. What is necessary is for you to use this guide to learn how to select safe playground equipment, how to teach children to play on it safely, and how to install, maintain, and repair it correctly.

This guide is for those interested in learning what safe playground equipment is. It can help you teach children to "Play Happy, Play Safely."

*Bureau of Epidemiology, Hazard Analysis of Playground Equipment, April, 1975.

PLAY
SAFELY

CONCEPT AND NECESSITY OF PLAY

Play is in the nature of children. It is not merely an "extra" or inconsequential part of a child's life. It is through play that children imitate adults and learn adult habits; through play they learn to be social beings—they learn how to interact with others, to take turns, to share, and to cooperate. Through play, children first learn about life by imagining, creating, and designing their own life situations. They learn to think through play; to live out their dreams. They develop muscles and muscle coordination; they learn how healthy physical play is for them—how it helps them to grow and strengthen their bodies.

Play, therefore, is important to children and to all parents and adults. If children are to grow and learn, they must do so safely. Toys and games, bicycles, sports equipment, swimming pools, and playground equipment must be designed with safety in mind.

To a child, a playground is anywhere—at school, down the block, at a friend's house, or in the backyard. Since adults cannot always be around to supervise children on the playground, the importance of selecting the right equipment cannot be overemphasized. It must be installed and maintained correctly and consistently and more importantly, children must be taught and reminded how to use playground equipment safely.

It is natural that children will roughhouse on the playground. This type of behavior, however, sometimes leads to accidents. It is necessary, therefore, to change the child's behavior. In trying to motivate children toward playing safely, the positive approach is preferred. Children should not be frightened into changing their behavior on the playground. The idea of "Play Happy, Play Safely" should be emphasized—that is, "Sit in the swing" instead of "Don't stand in the swing," or "Hold on with both hands" rather than, "Don't fool around on the monkey bars."

Children should be encouraged to care about themselves and the health and happiness of playmates on the playground. They should be told how important it is for them to exercise, to take care of their bodies, to grow strong and healthy (like Mom or Dad or some sports or cartoon hero).

Older children should be taught that it is important for them to play safely because younger brothers and sisters will imitate them. They should be encouraged to take the responsibility of helping younger children play safely on the playground and on equipment that is appropriate for their age group.

It is important that all adults take the time to learn about playground safety for the sake of the children — to be properly motivated to protect all children from unnecessary hurt and risks in their play.

YOU CAN HELP

SELECTION; USE; INSTALLATION, MAINTENANCE, AND REPAIR OF PLAYGROUND EQUIPMENT

The four main types of playground equipment covered in this guide are swings, slides, climbing apparatus, and seesaws. Information is given about how each should be selected, used, installed, maintained, and repaired safely.

SELECTION

When selecting playground equipment there are several points to keep in mind:

—Age of the child (Do not purchase a high slide for a 3-year-old)
—Cost
—Design

Most home playground equipment sets come unassembled. Make sure that complete assembly instructions are included in the set you purchase. If necessary, ask someone with mechanical knowledge to help in setting up the equipment correctly and safely.

USE

Teach children how to use each piece of playground equipment properly, and always supervise them. Teach them these safe play habits:

Swings

—Sit in the center of the swing; never stand or kneel.
—Hold on with both hands.
—Stop the swing before getting off.
—Walk way around a moving swing — not too close to the front or the back.
—Never push anyone else in the swing or allow others to push them.
—Have only one person in one swing at a time.
—Never swing empty swings or twist swing chains.
—Avoid putting head and feet through exercise rings on the swing sets.

Slides

—Hold on with both hands as they go up the steps of the slide, taking one step at a time; never go up the sliding surface or the frame. Keep at least one arm's length between children.
—Slide down feet first, always sitting up, one at a time.
—Be sure no one is in front of the slide before sliding down.
—Be patient, not to push or shove, and to wait their turn.
—Leave the front of the slide after they have taken their turn.
—Never use a metal slide that has been sitting out in the sun.

Climbing Apparatus

Geodesic domes or arches and jungle gyms.
—Use the correct grip; use fingers and thumbs ("lock grip") for climbing and holding; use both hands.
—Watch carefully when climbing down and avoid those climbing up.
—Avoid having too many people using the equipment at once.

Horizontal ladders and bars.
—All start at the same end of the equipment and, using the "lock grip," move in the same direction.
—Stay well behind the person in front and avoid swinging feet.
—Never use equipment when it is wet.
—Avoid speed contests or trying to cover too large a distance in one move.
—Drop from the bars with knees slightly bent and land on both feet.

Seesaws

—Sit facing each other, not leaning back.
—Keep a firm hold with both hands.

—Never stand or run on the board.
—Keep feet out from underneath the board as it goes down.
—Inform their partner before getting off; hold the board tightly and let it rise gradually so the child at the other end can get off safely.
—Never "bump" the other person by hitting the ground hard with either end of the board.

INSTALLATION, MAINTENANCE, AND REPAIR

Once the playground equipment has been carefully selected, it should then be properly and safely installed. Time should be taken to make sure that the equipment is installed correctly; time must also be taken to check all apparatus periodically.

General Installation Guidelines

—Install swing sets a minimum of six feet away from fences, building walls, walkways, and other play areas such as sandboxes.
—Legs of equipment should be set in concrete for stability. All types of anchoring devices should be placed below ground level to avoid a tripping hazard.
—Do not install equipment over hard surfaces such as concrete, blacktop, or cinders. Grass or sand is better. Providing a safer place to fall will reduce the severity of injuries.

Installation is affected by planning and design. These two concepts are important elements of all playgrounds, especially in the community and school areas. Control of traffic and accessibility must be considered when placing equipment, since many accidents are the results of collisions. Definite areas or "danger zones" should be clearly marked around the various apparatus. ("Danger zones" are those areas around the different pieces of equipment in which children walking or playing nearby could be hurt; e.g., a child playing too closely to a swing set could be hit with a moving swing or a child walking too near the front of a sliding board can be hit by a child sliding down the board.)

Apparatus for young children should be installed in a separate area away from the rest of the playground. Children should not have to pass through an area where another age group is playing to get to the apparatus.

Fencing is desirable around the playground areas to keep children from running into streets where they could be hit by cars.

General Maintenance Guidelines

Pupil safety patrols and other children can help teachers and playground supervisors in making maintenance checks on school playground equipment. They should be instructed on the various dangers of playground equipment, should learn how important it is to report broken or poorly functioning equipment immediately, and should help keep equipment areas on the playground free from clutter.

Maintenance checks should be made at the beginning of the play season and every two weeks during the season. (Public playgrounds should be checked more often.) Checks should include:
—Tightening any loose nuts, bolts, and clamps; applying new tape over protruding screws or bolts if necessary.
—Replacement of rusted parts, including swing chains.
—Oiling metal parts regularly; sanding and repainting any rusted metal tubing with unleaded paint. All wooden equipment should be checked and sanded where splinters are found.
—Refilling landing pits.
—Checking wear around foundations to assure that they are covered by several inches of soil.

Repairs should be made immediately; broken equipment should not be used until it is fixed.

Specific Installation And Maintenance Rules

Swings

—Swing supports should be set in concrete.
—Bi-weekly inspections of frames, hooks, hangers, connections, and suspensions are recommended. (Public playground equipment should be checked more often.)
—There should be soft surfacing underneath the swing sets.
—Rope swings should be inspected for wear and stress. Nylon and synthetic ropes are generally more durable than natural fiber rope.

Slides

—Legs of slides should be set in concrete. Inspections should assure that braces are firm and that steps are in good condition.
—Metal slides should be erected in shady areas.
—Beds and sides of the slide should be checked for screws, nails, and rough spots. A wood slide must be oiled or waxed frequently. It should not be washed.
—Metal slide beds must be cleared of rust.
—At the front of the slide there should be a landing pit with sand, tanbark, or a comparable substance to cushion falls. The pit should be kept free of debris and kept resilient, level, and loose.

Climbing Apparatus

—Climbing apparatus, such as monkey bars or nets, should undergo regular inspections to make sure that bars do not turn and that nets are in good repair.
—Surfacing underneath the apparatus should be kept resilient.
—All climbing structures must be absolutely dry before children are allowed on them.

Seesaws

—The fulcrum (the point of the seesaw that is attached to the bar) should be enclosed to protect against finger and hand injuries. Frequent checks should be made to be sure that attachments at the fulcrum are secure.
—Inspections should be made for protruding nails or screws and for splintering or splitting of the board.
—A block should be placed under each end of the board so children will not catch their feet if the board descends too rapidly.

SUMMARY

Even with all of the above advice on how to use playground equipment safely, children still need supervision. Supervisors can correct a child or a situation before an accident occurs. In addition, the presence of adults may lend a sense of security to younger children playing on the equipment.

Children should be free to imagine that they are flying on the swings, sliding down a mountain, riding wild animals, balancing like an Olympic gymnast, or climbing to the sky. You can guarantee their freedom to imagine, dream, play, learn, and grow by protecting them, teaching them, and supervising them. You can:

- —select playground equipment wisely,
- —take the time to install and maintain it correctly,
- —instruct children how to use it safely to protect themselves and their playmates, and
- —supervise their play to correct behavior and prevent accidents before they occur. You can help make the playground a safer place by helping children to "Play Happy, Play Safely."

References:

Cohen, Donald J., in collaboration with Ada S. Brandegee, "Day Care Center: 3 Serving Preschool Children," U.S. Dept. of HEW, DHEW Publ. no. (OHD) 74-1057, Office of Human Development, Office of Child Development, Washington, D.C., 1974.

Friedberg, M. Paul, "Play and Interplay," Macmillan, New York, 1970.

CHECKLIST

You may want to tear this checklist out of the guide and use it when shopping for playground equipment, when supervising children on the playground, or when conducting installation operations or maintenance checks.

SELECTION

—Buy the right-sized equipment — what suits the child's age and size.
—Make sure that all equipment has complete assembly instructions.
—Before making a final selection, check the following danger points of equipment:
  a. Pinch-Crush Parts
  b. Exposed Screws and Bolts
  c. Sharp Edges
  d. Rings
  e. Hard, Heavy Swing Seats
  f. "S" Hooks

USE

—Make sure that children use equipment that is safe and appropriate for their age group; e.g., preschoolers should use low slides.
—Children should use each piece of playground equipment according to its intended purpose. Give specific instructions to them on how to use swings, slides, climbing apparatus, and seesaws correctly.
—Adult supervision of children on playground equipment is extremely important because it can help correct unsafe situations before they lead to accidents.

INSTALLATION, MAINTENANCE & REPAIR

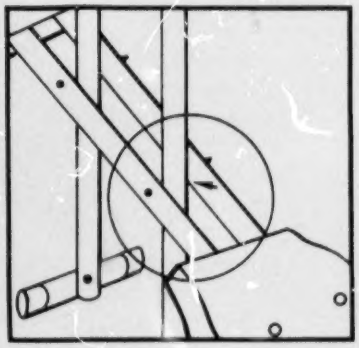
—Install swing sets a minimum of six feet away from fences, building walls, walkways, and other play areas such as sandboxes.
—Legs of equipment can be set in concrete for stability. All types of anchoring devices should be placed below ground level to avoid a tripping hazard.
—Do not install equipment over hard surfaces such as concrete, brick, blacktop, or cinders. Grass or sand is better.
—On home playground equipment, maintenance checks should be made every two weeks; on school playground equipment, the playground supervisor or pupil safety patrols should check equipment more often.
—In conducting maintenance checks:
  1. Tighten any loose nuts, bolts, and clamps.
  2. Inspect hangers, hooks, frames, connections, and suspensions.
  3. Apply tape over protruding bolts and screws.
  4. Replace rusted and worn or broken parts.
  5. Oil metal parts regularly; repaint as necessary; check wooden equipment for splinters.
  6. Check landing pits to see if they need refilling.
  7. Check the wear around equipment supports.
  8. Make repairs immediately; broken equipment should not be used until it is repaired.

SAY-HEY'S CHECK LIST

BE PARTICULARLY AWARE OF THESE NINE PLAYGROUND EQUIPMENT DANGERS:

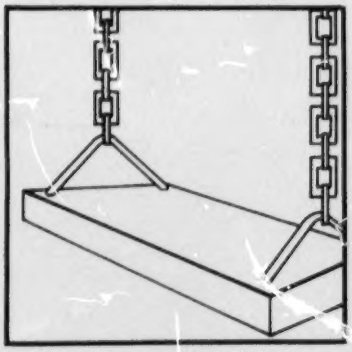
Pinch-Crush Parts

Moving parts particularly on gliders and seesaws can pinch or crush fingers.



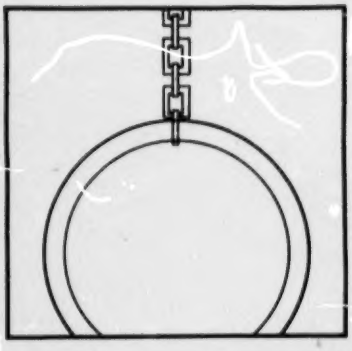
Hard, Heavy Swing Seats

Hard, heavy swing seats can strike a dangerous blow. Choose a set with lightweight seats or purchase such seats separately and replace the hard seats. Metal seats should have smooth, rolled edges.



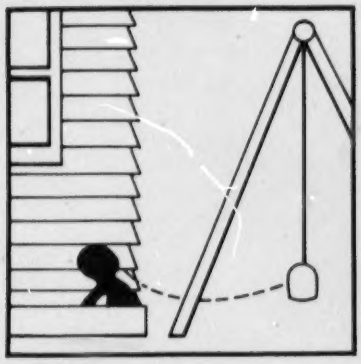
Rings

Swinging exercise rings with a diameter between five and ten inches can entrap a child's head. Remove such rings and discard them where children will not find and play with them.



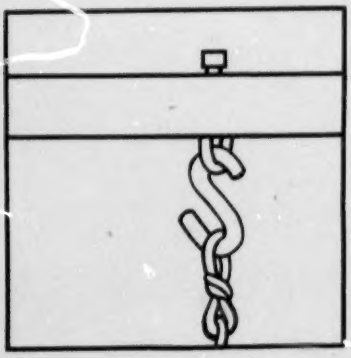
Inadequate Spacing

Install the set a minimum of six feet away from fences, building walls, walkways and other play areas such as sandboxes.



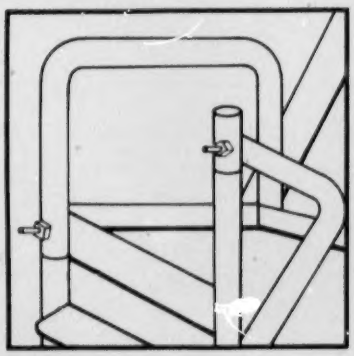
"S" Hooks

Open-ended hooks, especially the "S" hooks on swings which can catch skin or clothing, should be avoided. If a set has such hooks, pinch the ends in tightly with a pair of pliers.



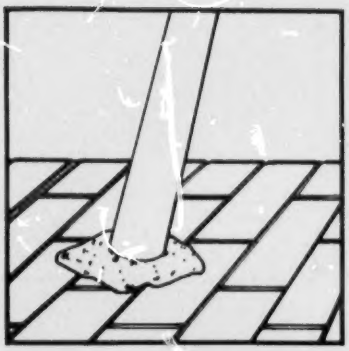
Exposed Screws and Bolts

Most sets include protective caps to cover screws and bolts. When protective caps are not included, tape over all exposed screws and bolts, even those which appear to be out of the child's reach.



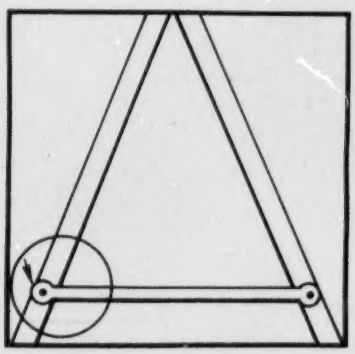
Hard Surfaces

Do not install the set over hard surfaces such as concrete, brick, blacktop or cinders. Grass or sand is better.



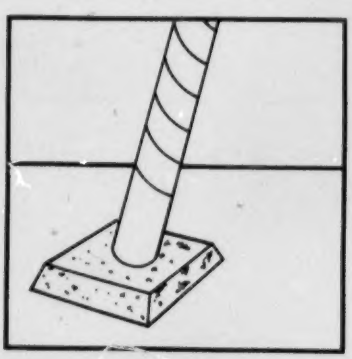
Sharp Edges

Some sets have sharp edges on points where the parts fit together. Tape over these areas with heavy tape and inspect the taped areas regularly for weather damage.



Improper Anchoring

Legs can be set in concrete for stability. All types of anchoring devices should be placed below ground level to avoid a tripping hazard.



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